10CFR50.73

Virginia Electric And Power Company
Surry Power Station
5570 Hog Island Road
Surry, Virginia 23883

January 18, 2003

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555-0001

Serial No.: 03-059
SPS: JCS
Docket No.: 50-281
License No.: DPR-37

Dear Sirs:

Pursuant to 10CFR50.73, Virginia Electric and Power Company hereby submits the following Licensee Event Report applicable to Surry Power Station Unit 2.

Report No. 50-281/2002-003-00

This report has been reviewed by the Station Nuclear Safety and Operating Committee and will be forwarded to the Management Safety Review Committee for its review.

Very truly yours,

Richard H. Blount, Site Vice President
Surry Power Station

Enclosure

Commitments contained in this letter:

1. A Root Cause Evaluation (RCE) was initiated to determine the cause of this event. Any approved recommendations from the RCE necessary to prevent recurrence will be implemented.

IE22

cc: United States Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW, Suite 23 T85
Atlanta, Georgia 30303-8931

Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

NRC FORM 366 (7-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 **EXPIRES 7-31-2004**

Estimated burden per response to comply with this mandatory information collection request. 50 hours Reported lessons learned are incorporated into the licensing process and fed back to industry Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U S Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503 If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
SURRY POWER STATION , Unit 2	05000 - 281	1 OF 3

TITLE (4)

Reactor Trip Due to Turbine Electro-Hydraulic Control Circuitry Failure

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCUMENT NUMBER 05000-
11	23	2002	2002	003	00	01	18	2003	FACILITY NAME	DOCUMENT NUMBER 05000-

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)			
POWER LEVEL (10)	85%	20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
		20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
		20.2203(a)(1)	50 36(c)(1)(i)(A)	X 50.73(a)(2)(iv)(A)	73.71(a)(4)
		20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
		20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER
		20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)	50.73(a)(2)(v)(D)	
		20.2203(a)(2)(v)	50.73(a)(2)(i)(B)	50.73(a)(2)(vii)	
		20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)	50.73(a)(2)(viii)(A)	
		20.2203(a)(3)(i)	50.73(a)(2)(ii)(A)	50.73(a)(2)(viii)(B)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Richard H. Blount, Site Vice President	(757) 365-2000

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
X	SB	IMOD	W120	Y					

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On November 23, 2002, at 0332 hours, Unit 2 was at 85% power for the performance of the Turbine Governor Valve Freedom Test. During the performance of the test, while closing # 3 Turbine Governor Valve, the Turbine Valve Limiter failed to zero causing all four governor valves to close. The Control Room received a Low Low Steam Generator Level signal resulting in an automatic reactor trip. This is reportable under 10CFR50.73(a)(2)(iv)(A), as an event that resulted in the manual or automatic actuation of any engineered safety feature, including the reactor protection system.

1.0 DESCRIPTION OF THE EVENT

At 0303 hours on 11/23/02, a Unit 2 Turbine Control Valve Freedom Test was initiated. By 0327 hours, testing of the #1 and #2 Turbine Governor and Stop Valves [EIIS-SB-FCV] was completed. Both of these tests were completed with no problems observed. At 0332 while closing the #3 governor valve, the Main Control Room (MCR) [EIIS-NA] staff observed several unexpected alarms when the #3 governor valve reached approximately 20% open. The alarms received indicated a loss of turbine load was in progress. The Unit 2 Reactor Operator (RO) observed that the 8 Main Steam Dump Valves [EIIS-SB-VTV] had opened in response to the loss of load. The main turbine operator conducting the governor valve testing observed that the turbine valve position limiter [EIIS-SB-ACV] had failed to zero. Multiple alarms annunciated during the transient, and at 03:32:51 hours Unit 2 experienced an automatic reactor trip. The first out annunciator received was "Steam Generator Low Low Level," due to two of three channels of low low level on the Unit 2 "C" Steam Generator (S/G) [EIIS-SG]. This is reportable under 10CFR50.73(a)(2)(iv)(A), as an event that resulted in the manual or automatic actuation of any engineered safety feature, including the reactor protection system.

2.0 SIGNIFICANT SAFETY CONSEQUENCES AND IMPLICATIONS

The shutdown margin for Unit 2 was determined to be satisfactory. Auxiliary feedwater [EIIS-BA] automatically initiated as designed on low low steam generator level. All three Main Steam Trip Valves [EIIS-SB-FCV] were manually closed due to inability to verify full closed indication on #1 Turbine Stop Valve. Primary RCS [EIIS-AB] temperature decreased to approximately 547 degrees following the reactor trip.

No primary safety or power operated relief valves [EIIS-AB-RV] were actuated during the event. No indication of primary to secondary leakage existed and, therefore, no adverse radiological consequences resulted from this event.

All electrical busses transferred properly following the trip and all emergency diesel generators [EIIS-EK] were operable.

There were no significant safety consequences or implications associated with this event.

3.0 CAUSE

The low low S/G level trip was the result of a sudden loss of turbine load. The cause of the loss of turbine load has been attributed to a failure of the turbine valve position limiter. The failure of the turbine valve position limiter can be attributed to an electrical failure in the Unit 2 EHC control cabinet. A Root Cause Evaluation (RCE) has been initiated to determine the cause of the failure, suspected to be a card failure [EIIS-SB-IMOD].

4.0 IMMEDIATE CORRECTIVE ACTION(S)

I&C personnel performed initial as-found system checks in the Unit 2 Analog Electro-Hydraulic (AEH) Control Cabinet in accordance with the appropriate procedure. A Work Order was issued to initiate troubleshooting and repairs to the Unit 2 AEH Control Cabinet circuits.

I&C personnel measured the as found voltages for the output of the Digital/Analog (D/A) converter in the valve position limiter circuit. The measured voltage at test point #2 was found to be low. I&C personnel removed and inspected the turbine valve position limit Up/Down Counter circuit card and the D/A Converter card with no abnormalities noted. I&C personnel then contacted Turbine Control Service Associates personnel and it was recommended that both cards in the circuit, the D/A converter card and the Up/Down counter card, be replaced. Troubleshooting was then completed by monitoring the valve position limiter circuit both prior to and following replacement of the Up/Down Counter and D/A Converter circuit cards.

5.0 ADDITIONAL CORRECTIVE ACTIONS

The D/A converter and Up/Down counter cards are being sent to Westinghouse for failure analysis.

6.0 ACTIONS TO PREVENT RECURRENCE

Any actions deemed necessary to prevent recurrence as determined by the RCE will be tracked through the Corrective Action System. The RCE will be completed when the results of the failure analysis are available.

7.0 SIMILAR EVENTS

None

8.0 MANUFACTURER/MODEL NUMBER

A/D Converter - Westinghouse Part # 398409
UP/DOWN Counter - Westinghouse Part # 2822A2G01

9.0 ADDITIONAL INFORMATION

None